TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Form PCT/IPEA/416
2004DE103		
International application No	International filing date (*day/month/year*)	Priority date (*day/month/year*)
PCT/EP2005/001020	02.02.2005	26.02.2004

International Patent Classification (IPC) or national classification and IPC

C09B67/04

Applicant

CLARIANT PRODUKTE (DEUTSCHLAND) GMBH

1 This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2 This REPORT consists of a total of _____ sheets, including this cover sheet.

3 This report is also accompanied by ANNEXES, comprising:

a ☐ (*sent to the applicant and to the International Bureau*) a total of _____ sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions)

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box

b ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s))

_____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions)

4 This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No
PCT/EP2005/001020

Box No. I Basis of the report

1 With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item

☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

☐ international search (Rule 12.3 and 23.1(b))

☐ publication of the international application (Rule 12.4)

☐ international preliminary examination (Rule 55.2 and/or 55.3)

2 With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

☐ the international application as originally filed/furnished

☒ the description:

pages 1-18 as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☒ the claims:

nos. 1-10 as originally filed/furnished

nos.* _____ as amended (together with any statement) under Article 19

nos.* _____ received by this Authority on _____

nos.* _____ received by this Authority on _____

☐ the drawings:

sheets _____ as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing

3 ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, nos _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

4 ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c))

☐ the description, pages _____

☐ the claims, nos _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No
PCT/EP2005/001020

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Statement

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2 Citations and explanations (Rule 70.7)

See supplemental sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

See supplemental sheet

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: Boxes V and VIII

1) The present invention relates to a method for comminuting crude phthalocyanine pigments using an eccentric vibratory mill.

2) Documents cited:

D1: GOCK, FLORESCU: "Neue Entwicklungen ..." TU CONTACT, [Online] June 2001 (2001-06), pages 45-50, XP002331474 found on the Internet: URL:http://www.tu-clausthal.de/presse/tucontact/2001/juni/tucl/25.pdf> [found on 2005-06-10]

D2: GOCK, CORELL: "Neueste Entwicklungen von Schwingmühlen" J. FORTSCHRITTSBERICHTE DEUTSCH. KERAM.GESELL., vol. 16, 2001, XP009048822

D3: GOCK, KURRER: "Eccentric vibratory mills..." POWDER TECHNOLOGY, vol. 105, 1999, pages 302-310, XP002331475

D4: EP-A-0 653 244 (SIEBTECHNIK GMBH) 17 May 1995 (1995-05-17)

D5: DE 950 799 C (BADISCHE ANILIN & SODA-FABRIK AKTIENGESELLSCHAFT) 18 October 1956 (1956-10-18)

3) Novelty

Documents D1-D4 describe aspects of eccentric vibratory mills. In this context D1 appears to be the most relevant document, since it describes the grinding of organic violet pigments, though not specifically crude phthalocyanine pigments.

Document D5 describes the grinding of crude phthalocyanine pigments in a conventional vibratory mill.

4) Inventive step

In accordance with the description (page 2) phthalocyanines are obtained from synthesis, conventionally, in the form of crude pigments, which before being used require comminution, with the grinding critically influencing the performance properties. In this context the application also refers to document D5, which already describes the use of vibratory mills for comminuting phthalocyanines.

In this context the description (page 3) outlines the problem of increasing the efficiency of the grinding of phthalocyanines with the aim of obtaining the desired properties within a shorter time, or improved properties within the same time, particularly in order to obtain phthalocyanines which are transparent and also strongly coloured. The application shows in the examples that for grinding crude phthalocyanine pigments the use of an eccentric vibratory mill has advantages over the use of a conventional vibratory mill, particularly in respect of the practical operation of the method (example 1 versus 2) and of the qualitative properties of the resulting pigments (example 3 versus 4 and example 5 versus 6).

Supplemental Box

With regard to document D5 as the closest prior art, the problem addressed could be seen, therefore, to be that of providing a correspondingly advantageous method.

D1-D4, however, disclose a wide variety of advantages possessed by eccentric vibratory mills, including advantages associated with treatment of pigments (D1-D3). In this context, D1 refers, among other things, to the aim of increasing the reflection capacity, and D3 refers, among other things, to the flexibility of the eccentric vibratory mill with regard to the establishment of frictional and impact influences during the grinding operation.
A person skilled in the art, having set himself or herself the aim of improving the method of D5, would certainly consider the teaching from D1-D4, since these documents specifically propose improvements to the vibratory mill method, including improvements for pigment treatments.
In light of the clear advantages known from D1-D3, it appears obvious to a person skilled in the art to use the eccentric vibratory mill for grinding crude phthalocyanine pigments too. The fact that this application, which on account of the predicted and clear advantages was obvious is also accompanied by certain advantages which might possibly not have been expected, is regarded in this context as being, at best, a bonus of the obvious application.